

Amendments to the Claims

Claims 1-6 (Canceled).

Claim 7 (Currently amended): A thin film chip resistor resistant to moisture without use of metallic tantalum comprising:

a substrate;

a single continuous metal thin film resistive layer directly attached to the substrate, the metal thin film layer being non-tantalum;

a non-tantalum chip resistor termination attached on each end of the metal thin film resistive layer; an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the metal thin film resistive layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and the outer moisture barrier formed from deposition of tantalum oxide on the metal thin film resistive layer and not through oxidation of tantalum.

Claim 8 (Original): The thin film resistor of claim 7 wherein the metal film layer is an alloy containing nickel.

Claim 9 (Original): The thin film resistor of claim 7 wherein the metal film layer is an alloy containing chromium.

Claim 10 (Original): The thin film resistor of claim 7 wherein the metal film layer is a nickel-chromium alloy.

Claim 11 (Canceled).

Claim 12 (Original): The thin film resistor of claim 7 wherein the tantalum pentoxide layer is overlaid by sputtering.

Claim 13 (Previously presented): A nickel-chromium alloy thin film chip resistor resistant to moisture without use of metallic tantalum comprising:

- an alumina substrate;
- a single nickel-chromium alloy thin film layer directly contacting the substrate;
- a non-tantalum chip resistor termination attached on each end of the nickel-chromium alloy thin film;
- an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the nickel-chromium alloy thin film layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and
- the outer moisture barrier formed from deposition of tantalum oxide on the nickel-chromium alloy thin film layer and not through oxidation of tantalum.

Claim 14 (Canceled).

Claim 15 (Previously presented): A nickel-chromium alloy thin film chip resistor resistant to moisture without use of metallic tantalum comprising:

- an alumina substrate;

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a single nickel-chromium alloy thin film layer directly contacting the substrate;
a non-tantalum chip resistor termination attached on each end of the nickel-chromium alloy thin film;
a passivation layer directly overlaying and contacting the nickel-chromium alloy layer;
an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the passivation layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and
the outer moisture barrier formed from deposition of tantalum oxide on the passivation layer and not through oxidation of tantalum.

Claim 16 (Canceled).

Claim 17 (Currently amended): A thin film chip resistor resistant to failures due to electrolytic corrosion under powered moisture conditions without use of a tantalum nitride system and without use of a screen-printed moisture barrier, comprising:
a substrate;
a single thin film resistive element overlaid on the substrate;
a chip resistor termination attached on each end of the thin film resistive element; and
an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the thin film resistive element to reduce failures due to electrolytic corrosion under powered moisture conditions.

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Claim 18 (Previously presented): The thin film chip resistor of claim 17 wherein the outer moisture barrier prevents failure after MIL-STD-202 testing.

Claim 19 (Previously presented): The thin film chip resistor of claim 17 wherein the chip resistor termination is wrap around termination.

Claim 20 (Previously presented): The thin film chip resistor of claim 17 wherein the thin film resistive element is a metal thin film resistive element.

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